

~~118~~. (Third Amendment) An electrosurgery apparatus comprising:
an electrode carrier having a distal end;
at least one electrode on the electrode carrier;
an alternating current source conductively connected to the at least one electrode by way of a cable providing alternating current flow to the at least one electrode, wherein one of the at least one electrode and the electrode carrier has a thermoelectric heating and cooling device;

a temperature control device for the electrode and the electrode carrier, wherein the electrode carrier is of a pointed configuration at its distal end; and

a fluid heater for heating the at least one electrode and the electrode carrier independent of the amplitude of the alternating current flowing through the at least one electrode.

~~218~~. (Twice Amended) An electrosurgery apparatus comprising:
an electrode carrier having a distal end;
at least one electrode on the electrode carrier;
an alternating current source conductively connected to the at least one electrode by way of a cable providing alternating current flow to the at least one electrode;

a temperature control device for the electrode and the electrode carrier, wherein the electrode carrier is of a pointed configuration at its distal end;

~~218~~ an effective temperature profile control device which is coupled to the temperature control device, the effective temperature profile control device comprising an interactively programmable effective temperature profile calculation unit for determining simulated, time-dependent effective temperature profiles on the basis of parameters of a tissue and the at least one electrode and assumed parameters of the alternating current source and the temperature control device, and

for varying the assumed parameters to ascertain an optimized, time-dependent effective temperature profile; and

a fluid heater for heating the at least one electrode and the electrode carrier independent of the amplitude of the alternating current flowing through the at least one electrode.

³~~20~~. An electrosurgery apparatus as set forth in claim ²~~19~~ wherein the effective temperature profile control device is coupled to the alternating current source, for sending a control input for controlling the alternating current source.

⁴~~22~~. (Twice Amended) An electrosurgery apparatus as set forth in claim ²~~19~~ or ³~~20~~, comprising at least one low-inertia temperature sensor connected to an input of the effective temperature profile control device and which can be arranged adjacent to one of the at least one electrode and the electrode carrier.

⁵~~23~~. An electrosurgery apparatus as set forth in claim ⁴~~22~~ wherein the temperature sensor is connected to an input of the calculation unit and that the calculation unit comprises means for verification or correction of a simulated, time-dependent effective temperature profile on the basis of the measurement signal of the temperature sensor.

⁶~~24~~. (Twice Amended) An electrosurgery apparatus comprising:
an electrode carrier having a distal end;
at least one electrode on the electrode carrier;
an alternating current source conductively connected to the at least one electrode by way of a cable providing alternating current flow to the at least one electrode;

a temperature control device for the electrode and the electrode carrier, wherein the electrode carrier is of a pointed configuration at its distal end;

an effective temperature profile control device which is coupled to the temperature control device; wherein the effective temperature profile control device comprises,

means for storing and calling up a time-dependency of control signals, and

means for outputting control signals in accordance with a stored time-dependency; and

a fluid heater for heating the at least one electrode and the electrode carrier independent of the amplitude of the alternating current flowing through the at least one electrode.

35. (Twice Amended) An electrosurgery apparatus comprising:

an electrode carrier having a distal end;

at least one electrode on the electrode carrier;

an alternating current source conductively connected to the electrode by way of a cable providing alternating current flow to said at least one electrode;

a temperature control device for the electrode and the electrode carrier, wherein the electrode carrier is of a pointed configuration at its distal end; and

a fluid heater for heating the at least one electrode and the electrode carrier independent of the amplitude of the alternating current flowing through the at least one electrode, wherein the electrode carrier comprises a tubular element of electrically insulating material with a decreasing conical distal end, the conical distal end having a peripheral surface and an interior, on the peripheral surface of which is arranged the at least one electrode and in the interior of which is arranged the temperature control device.